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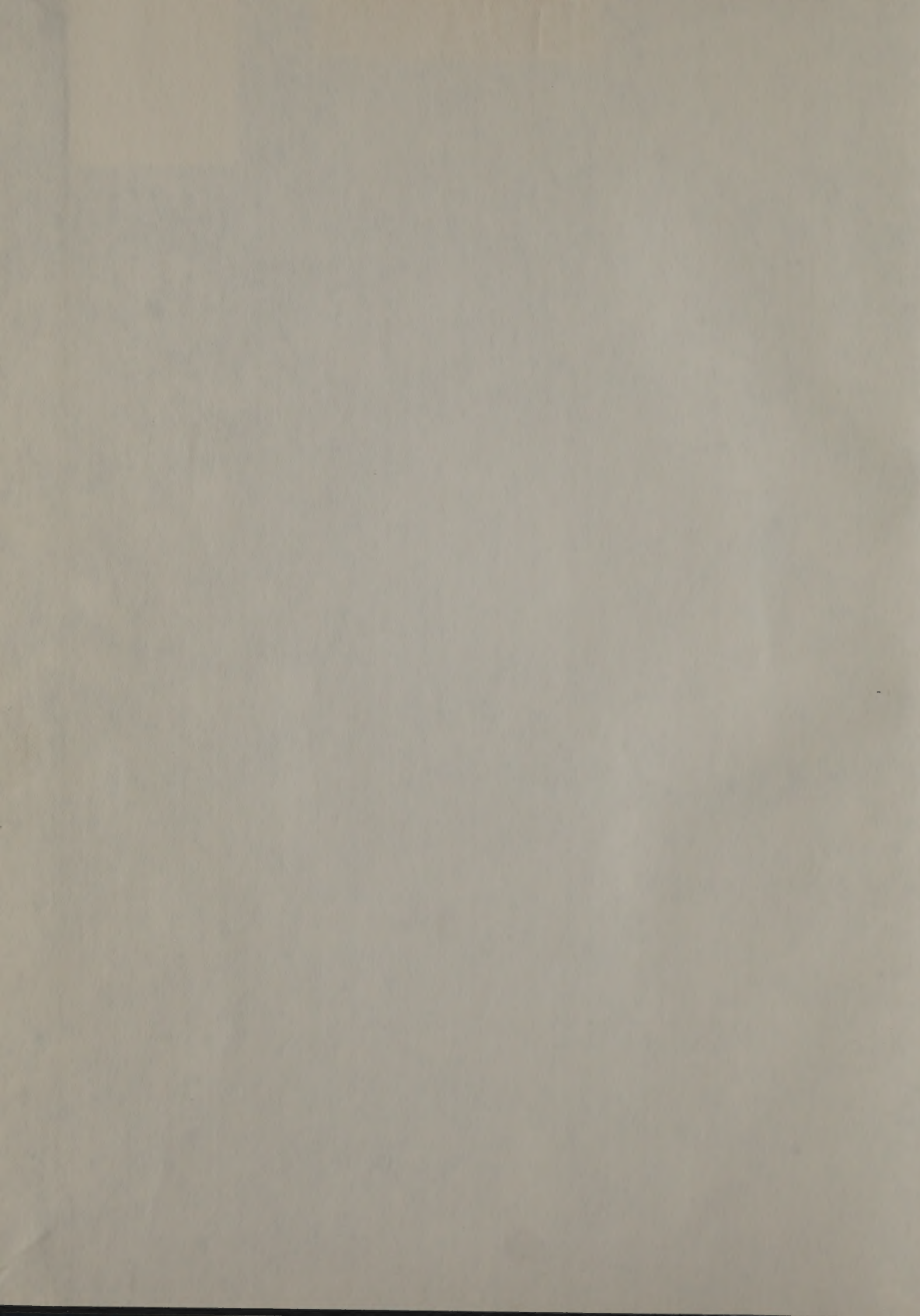
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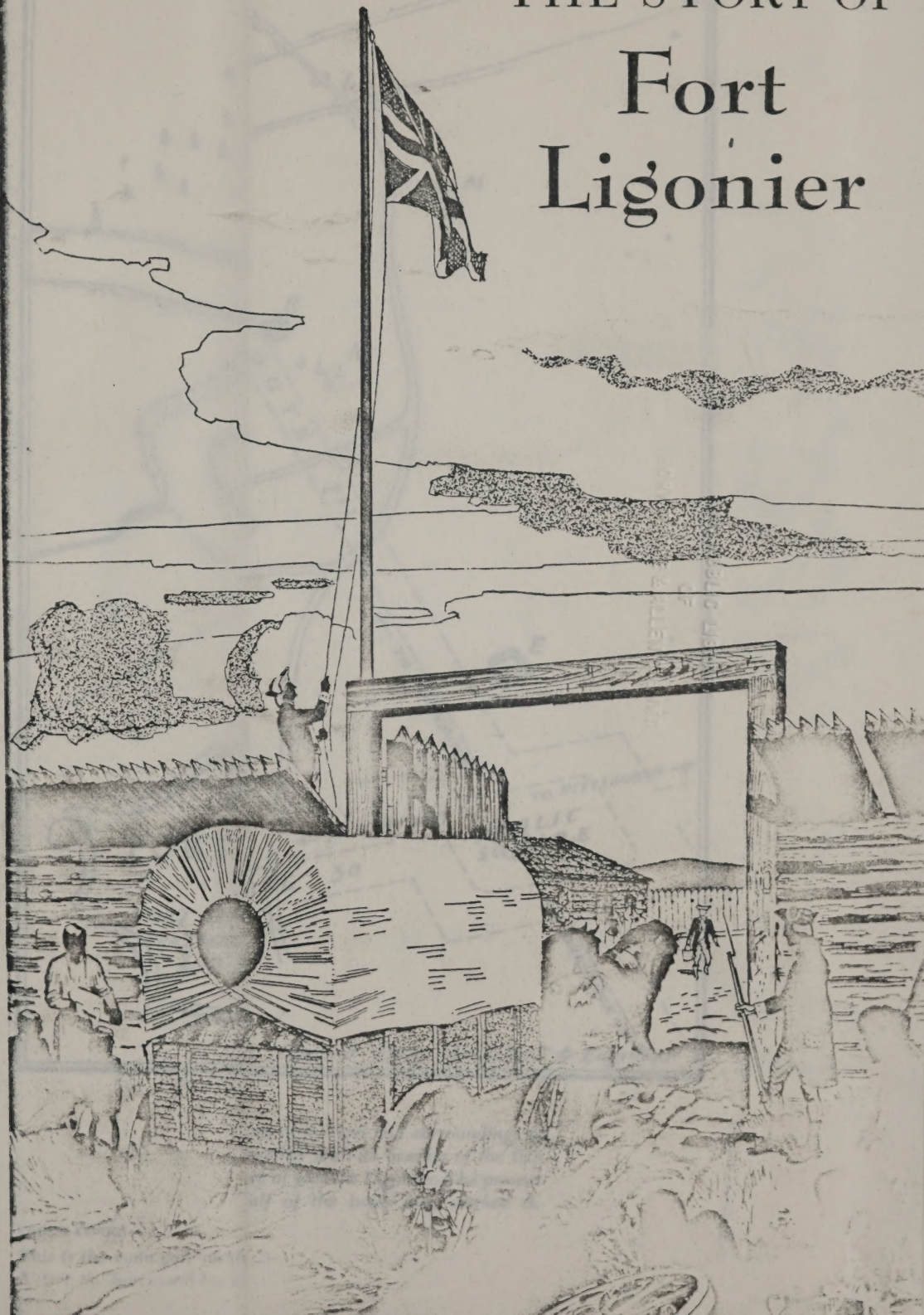








# THE STORY OF Fort Ligonier



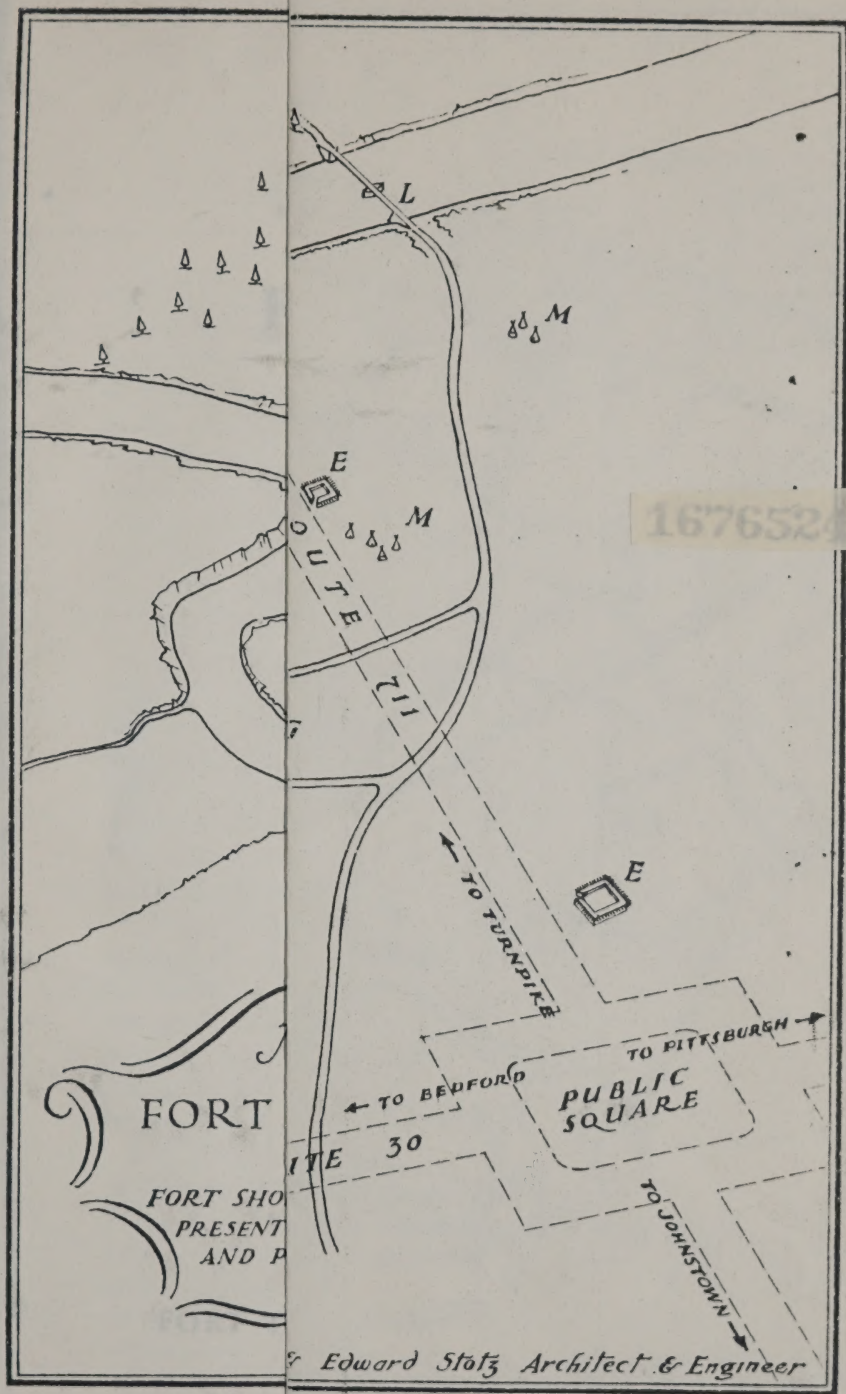
THE STORY OF

# Fort Ligonier

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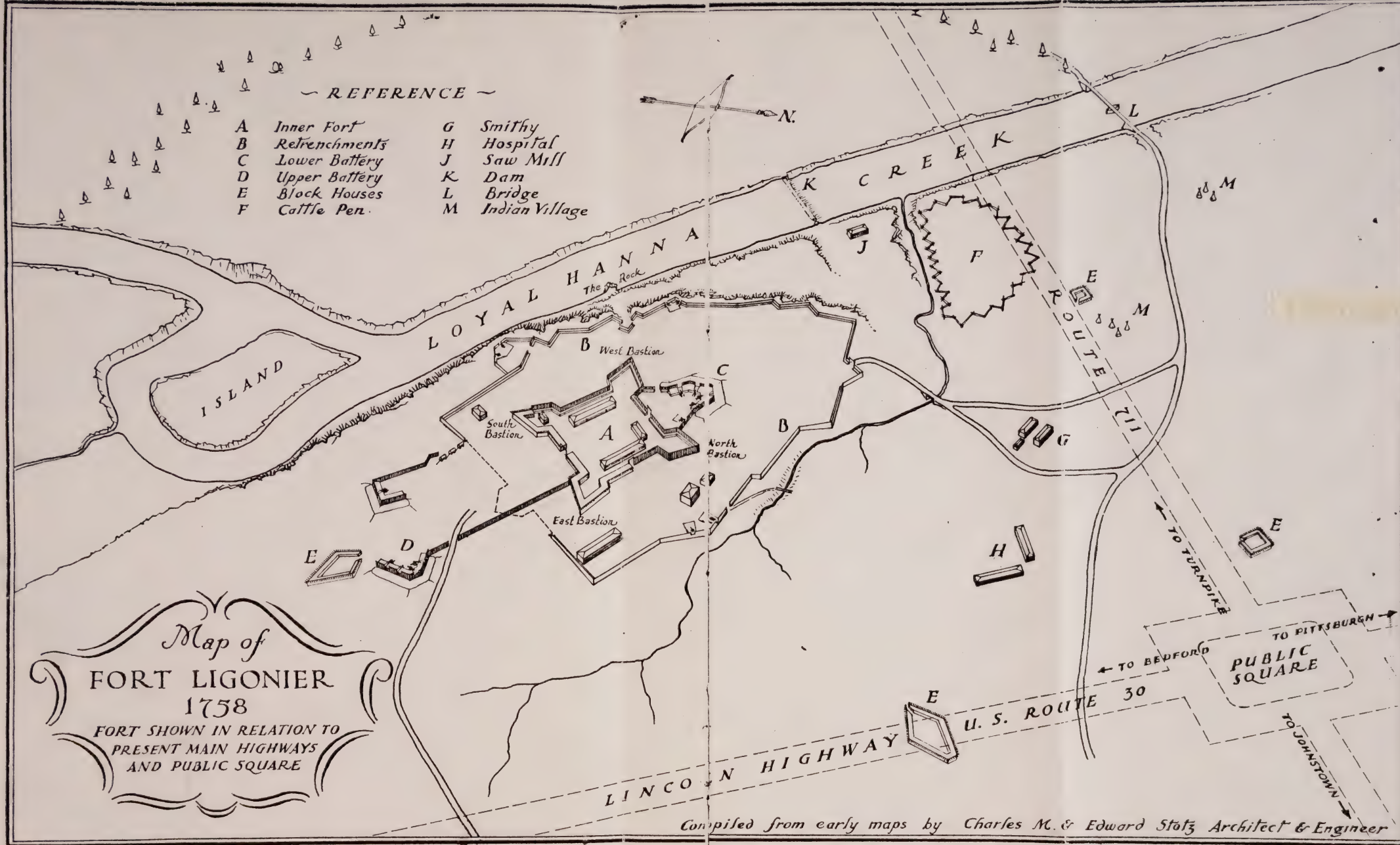
res of the fort and surroundings as  
together with an overlay of the two  
re of modern Ligonier. The present  
alf of the inner fort, marked A.

#### FRONT COVER

This is the main gate on the  
Notice the horizontal log on







This aerial view shows all of the features of the fort and surroundings as given in the early military drawings, together with an overlay of the two principal highways and the public square of modern Ligonier. The present reconstruction comprises the lower half of the inner fort, marked A.

# FRONT COVER

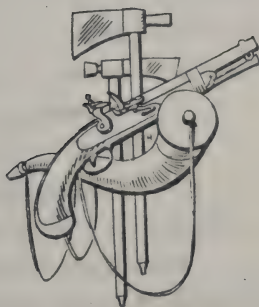
This is the main gate on the entrance front of the fort.  
 Notice the horizontal bar construction with fruited top.





# THE STORY OF FORT LIGONIER

By  
CHARLES M. STOTZ  
*Architect for the Reconstruction*



October 1954

FORT LIGONIER MEMORIAL FOUNDATION  
Ligonier, Pa.





1676524

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1850-1851

1850-1851

1850-1851

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1850-1851



## AUTHOR'S FOREWORD

**T**HIS BOOKLET was written for the visitor who would like to know more about Fort Ligonier, the events that led to its building, its role in the frontier warfare and something about the fort itself and those who occupied it. Architectural research must include a concern with historical events and personalities and the conditions of the times. Indeed the architecture is an outgrowth of these factors, as may be seen in this story of Fort Ligonier.

Made of the timbers and earth which surrounded it, the frontier fort was truly an ephemeral creation. The effects of rain and frost, rot and rust were devastating. The fabric of the modern reconstructed Fort Ligonier could hardly be made to show the many evidences of wear and tear that must have resulted from occupation by an unruly army, to say nothing of deterioration from weather and lack of maintenance. These details can only be supplied by the informed imagination. We are able to approximate the form—none of the spirit. May this empty shell remind us of the hardships of our ancestors and help us to appreciate our heritage of unprecedented security and comfort.

The reconstructed frontier fort holds for us moderns a romantic appeal that was probably not shared by the soldier of the time as he viewed the original. Poorly fed, clothed and paid, and usually without adequate protection from the elements, he was surrounded by a vast, gloomy forest that harbored an invisible, cruel enemy whom he feared desperately. The fort was usually crowded with men and animals that churned the ground into mud or raised clouds of dust. It was filled with odors, vermin, and confusion and, except in the heat of campaign, its garrison was often insubordinate.

Let us dedicate this project to those soldiers, lured into the wilderness by promise of money or adventure or the glory of British arms or perhaps just plain curiosity. Their story is a fascinating combination of recklessness and devotion. Fort Ligonier stands as a mute memorial to this vanguard of the greatest migration in modern times, a movement of people who carried the white man's civilization over the mountains into the rich inland basin.





## THE STORY OF FORT LIGONIER

The Indian word for stream, "hanna," appears in various forms in many of the beautiful names of our streams — Susquehanna, Rappahannock, Quemahoning, and our own Loyalhanna Creek. In mid-eighteenth century this word was usually spelled Loyal Hannon. This meant "middle stream," halfway between the Juniata and Ohio rivers. The name was also applied to a small Indian village and trading center in the forest clearing that occupied the site of modern Ligonier. In July of 1758 Loyal Hannon was visited by a British soldier named Colonel John Armstrong. He was in enemy territory that had been held by the French since their bloody rout of Braddock only three years before. Fort Duquesne lay just fifty miles to the west and the forests contained few Indians who were not hostile to the English. Armstrong, apparently unperturbed by these circumstances, wrote his commander, General Forbes, in Philadelphia a report with a supercilious lilt uncommon in military correspondence. "The latter (Loyal Hannon) is a very pretty place; well situated and grass in abundance. The situation is undoubtedly Good for nature has supplied it with all the conveniences, and what makes it more desireable is the Western breezes carrying with them the Smell of French Brandy." He added his final stamp of approval, "A very proper and advantageous post for us." Thus was the site of Fort Ligonier determined.

### *The Military Significance of Fort Ligonier*

To the French the Ohio Valley was the essential link between their colonies on the St. Lawrence and those on the Mississippi. To secure this route they had constructed the forts shown on the map of western Pennsylvania and had secured a degree of co-operation from the Indians. To the English, the control of the upper Ohio meant more room for western expansion and a means of breaking the French encirclement. In 1758 the British organized their strength to drive the French from the New World by simultaneous attacks on Quebec, Crown Point, Niagara, and Duquesne. General John Forbes, who was assigned the task of taking Fort Duquesne, decided to abandon the old Braddock route from Fort Cumberland and to extend the path westward from Fort Bedford.

There was no question that Forbes with his army of 4,000 could take Duquesne with ease. The problem was to get it there safely and supply it with provisions and munitions on the way. Braddock's experience had demonstrated that the lack of a fortified post to fall back on after a re-





versal meant complete defeat. So Fort Ligonier was established as a depot or "post of passage" and a refuge in event of military disaster. The com-



*Platter from St. Clair Collection showing Entrance to Fort Ligonier.  
Owned by Mr. and Mrs. Richard King Mellon.*

bined requirements of adequate defense and storage of supplies and munitions for a large army determined its character, unique among frontier forts.

### *Division of Responsibility*

Forbes entrusted the direction of his campaign to one of the most conscientious and efficient officers of the day, Colonel Henry Bouquet, a Swiss soldier of fortune. He in turn leaned heavily on Colonel James Burd who was given responsible direction of the work at Ligonier, a task originally intended for Major William Grant, who accompanied Burd with 1,500 men to construct the fort. Burd was assisted by the Chief Army Engineer, Ensign Rohr whom Bouquet authorized to "... give directions for the Fort." When Rohr's services were not available in August, Bouquet complained that "A post of that Consequence cannot be built without the directions of the Chief Ingeneer." Rohr undoubtedly had a responsible part in the major decisions, but Burd had the final word, and it was he who finally established the precise site of the fort.

The actual direction of construction and probably the detailed design seems to have been assigned to Captain Harry Gordon. Gordon was assisted by two engineers, J. C. Pleydell and Robert Dudgeon, each of whom made excellent drawings of the fort that still exist. Dudgeon's work is the Windsor Drawing which we reproduce as the most reliable and complete evidence of the layout and location of the fort. Captain Gordon had re-



cently come from the construction of Fort Edward in the upper Hudson Valley. Whether or not he was responsible for building Fort Ligonier, the records indicate that he received both censure and praise from his superiors. Forbes complained to Bouquet, after receiving reports of progress in October, that Gordon was building a fort at Loyalhannan "fitt to stand a siege" and added: "You know we want nothing but a strong post So for God's sake think of both time money and Labour and put a Stop to all superfluitys." When Gordon moved on later to direct work at Fort Pitt, Colonel Burd praised him thus in a report to Bouquet: "The Post is Strong and in good hands . . . My best compliments to Capt. Gordon, his Extraordinary zeal & activity on this occasion does not Surprise me. I am glad to hear every officer praise him."

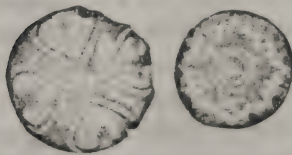
### *Access to the Wilderness*

The problem of providing passage through the forest for the Army seemed to have largely occupied Chief Engineer Rohr's energies. The fifty miles from Bedford to Ligonier was mountainous and densely wooded. The early military routes avoided low passes where work could have proceeded with less effort, but held to high ground and ridges where the work was more difficult but the danger of ambush was less. Although the original Forbes "road" was little more than a path, just wide enough to admit army wagons, it required the removal of thousands of trees, boulders, and other obstacles at great peril to the workers. Bouquet wrote: "the Road is to be cut to the advanced Post by Two Hundred Men, and two Hundred more to cover the Cutters." There were as many men with guns as axes!

A portion of this road had been cut under the direction of Colonel Burd from Fort Bedford to the top of Allegheny Ridge during Braddock's campaign as an alternate supply route. It was now taken up where abandoned three years before and continued toward the new fort at Ligonier.

### *Burd Begins the Work*

Colonel Burd and his party of 1,500 left Bedford on August 23 and arrived at the "camp at Loyalhanna" on Sunday, September 3, 1758, where they found several old houses and a smith's shop in the forest clearing near the "diamond" of modern Ligonier. Any open space in the forest was unusual. Here there was "grass in abundance"



BUTTONS







**BURD'S SKETCH**—This drawing made by Colonel James Burd at Loyal Hannon, is apparently the "draught" enclosed with his letter of September 3 to Colonel Henry Bouquet. This letter records his last-minute change of the fort site. The drawing is in Burd's letter book owned by the Historical Society of Western Pennsylvania.

and Burd was told that "preparations were to be made to harvest hay," a precious commodity for the army horses. He was also instructed to "begin by making entrenchments for their camp, as protection against a surprise attack." Burd reported that on this first Sunday he "put in a day's work on the Encampment Mr. Rohr had formerly seen." However, on the following day Burd decided to abandon the approved location and began work on a new site which he considered a better location for the fort. We are most fortunate in having Burd's original sketch made after he had arrived at this decision. It is reproduced with the permission of the Historical Society of Western Pennsylvania.

The old houses and smithy are shown, as well as the camp he then occupied and the proposed new location with tentative disposition of the troops. The delineation of the terrain and streams are readily recognizable





as the fort site we know today. Burd forwarded this sketch, or "draught," to Bouquet, on September 5, with a letter in which he states that he "evacuated the old ground, & began our breast work on the New, on Munday morning," because "upon Reconnoitering we found a very find piece of Ground naturally strong being high & Haveing the Creek on the one side, and a fine spring on the other, just under our works," that he would have the troops in the breastworks at ten o'clock on that day, and that he would send "a draught of this (I realy will say) fine place." Thus the precise location had been finally set and work begun on Monday, September 4, 1758.

### *Grant's Disaster*

Colonel Bouquet arrived at Ligonier on September 7 and two days later agreed to permit Major James Grant to lead 800 Highlanders and Virginians on a reconnoitering expedition toward Fort Duquesne. Grant reached the site of the street that bears his name without discovery, but, through various indiscretions and inability to cope with Indian methods of warfare, he was badly beaten and lost 270 men including prisoners among whom were 20 officers and Major Grant himself. This tragic affair had only one advantage for the English. The Indian allies, satisfied with their booty and desiring to celebrate, deserted the French in great numbers. On the other hand, the French had learned the strength and location of the British and immediately made plans to attack them before they were reinforced.

### *Instructions and Execution*

As might be supposed, the exigencies of building the fort led to many variations, large and small, between intention and accomplishment. As, for example, the above-mentioned decision to abandon the site originally selected because the "terrain is completely commanded, it cannot serve the double purpose of use at the present time, and as a frontier post in case of disappointment." In fact there was a brief period when it was agreed to establish the main depot at a point nine miles west of Ligonier. At the time of Grant's defeat 400 cutters had already advanced the road to that point and breastworks were near completion. It



11  
was called Dagworthy's Camp. The French and Indians, on their way to Ligonier, attacked this advance post. The English thereupon fell back and permanently abandoned it.

The original orders stipulated that "A storehouse 120 feet long and at least 23 wide is to be built immediately to lodge your Provisions and Ammunition, in the place where the Fort is to be erected, and covered with Shingles. All the artificers are to be put to work: The Sayiors (sawyers) and Shingle Makers with the Smiths first: an hospital is to be built near the Fort, and ovens." Two small redoubts were to be built "at two hundred yards distance." The Museum Drawing shows two storehouses within the inner fort, each about 18 by 78 feet and another storehouse of somewhat smaller size abutting the retrenchment. A storehouse 120 feet long could not be put inside the fort and we assume the practical solution of storage requirements and other similar problems was left to the discretion of Colonel Burd or Captain Gordon. The redoubts are located at varying distances from the fort, the most distant being 200 yards away.

Forbes, an ill man, requested: "Pray make a hovell or hutt for me at L. Hannon or any of the other posts, with a fire place if possible." The cabin near the South Bastion was probably reserved for Forbes. We do not know whether the General got his fireplace but we do know that as late as October of 1763 Commandant Blane wrote Bouquet that "... Unless







you allow me to send for or order yourself two or three stoves I dont know what will become of the Garrison in winter as there is not a single barrack in the Fort for them with a chimney, and I imagine you would think it unsafe for . . . a garrison to be out of the fort." The original plan provided no barracks in the inner fort, except for officers. It is possible that when the need for the large storehouses in the inner fort no longer existed, they were converted to barracks.

Bouquet wrote Burd on September 25: "A Fort of Logs is to be built round the Store House. The Timbers to be prepared in the Woods and Haul'd by the Waggon's that shall come from Ray's Town. One Hundred and fifty fit Men of the Line are to be appointed for that Work with Officers who are to do no other Duty, and as they are to be constantly employ'd, they are to receive one Jil of Rum per Day."

Bouquet reported in October that Gordon had made the exposed or entrance side of the fort with a double row of logs to be filled with dirt and that the stockade walls had been started. This agrees with the contemporary plans. A detail of the double-log construction of the entrance is shown on the Museum Drawing. It was customary to use this artillery-proof construction only on the exposed face of the fort, as it was slow and costly to build in comparison with the stockades. On Burd's sketch he notes "The french army's line of attack" and it was toward this exposure that the horizontal log wall faced.

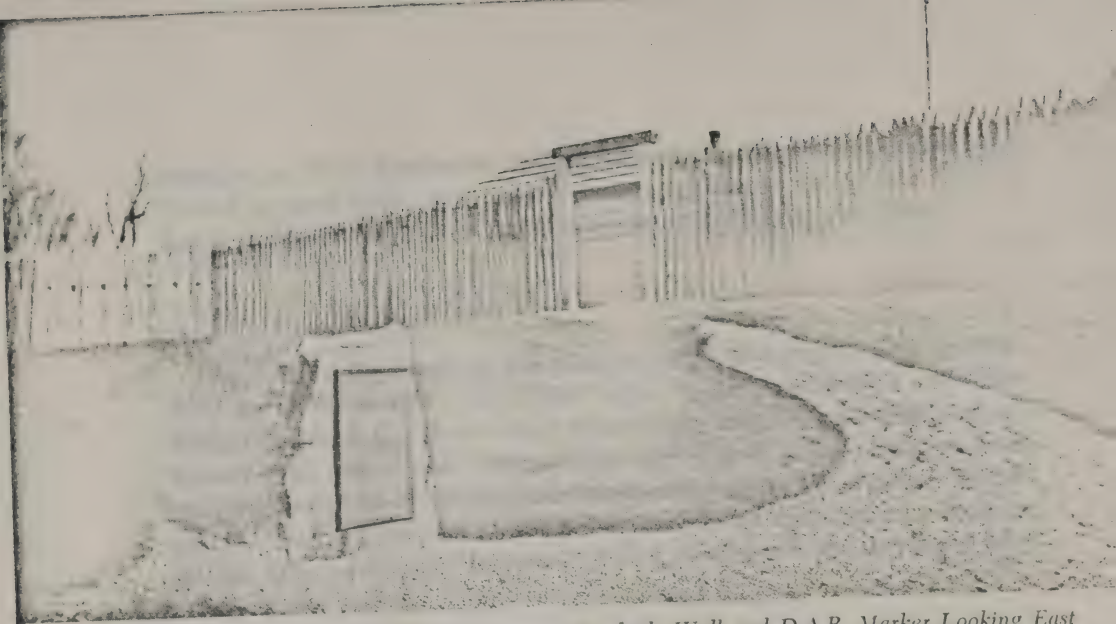
It is unlikely that the breastworks Burd built in two days could have been more than a ditch and mound construction and may have been represented by the zigzag line enclosing the troops. At any rate, the retrenchment or outer line of defense, shown as *B* in the Map of Fort Ligonier, was noted on the Windsor Drawing as "made of Logs & Fraiz'd at Top." As a "fraise" was a row of small logs projecting at an angle from the top of a timber wall, intended to prevent scaling by the enemy, we infer that the retrenchment was of horizontal log construction. This was probably supplied gradually after completion of the inner fort.

### *The First Test of Strength*

It was well that Gordon had built a fort "fitt to stand a siege" for it was attacked on October 12 by a large force of French and Indians, a little over a month after work was started. The enemy was repulsed with some difficulty but Forbes criticized Burd for not pursuing the enemy to inflict a decisive defeat. In addition to the loss of men, almost all of the horses were stolen or killed. This brought work practically to a standstill and delayed completion of the wall around the magazine, shown in the Museum Drawing as *C*.







*Reconstructed Stockade Wall and D.A.R. Marker Looking East*

### *Occupation of "Pittsborough" by the Army*

Forbes occupied Fort Ligonier on November 1, 1758. The disposition of troops shown on the Windsor Drawing is presumably that of the Army on this occasion. On November 10 Forbes officially changed the name of the Camp at Loyal Hannon to "Pittsborough." But with the occupation of Fort Duquesne some 15 days later William Pitt was honored a second time and Loyal Hannon became Ligonier, in honor of Sir John Ligonier, Commander in Chief of the British Army.

On November 16 Bouquet called a meeting with the officers at which he questioned engineers Harry Gordon and Robert Dudgeon concerning the security of the fort. The specter of General Braddock still disturbed the leaders of the expedition. "In the Condition things are in and Considering the Impossibility of Recrossing the Mountains with the Artillery &c now here, in Case of Repulse from the Enemy what Methods Could be taken to Secure it at this Place.

"Answer'd that the Readiest Method of Making a Parapet would be with Fascines the Outside of the Stockades, at Such a distance, that being fitted in with Earth it might be Able to Resist and be proof from Shot of Small Pieces of Cannon, And that Such a Parapet might be made by 500 Men in three Weeks and a Ditch dug to fill it up . . . But that One Coehorn Mortar would be Sufficient to Destroy the Place by Blowing up the Magazine." In other words, a strong fort could not be built before winter set in.

The need for the construction of more elaborate defenses did not ma-



terialize as Fort Duquesne fell on November 25. Fort Ligonier continued for some eight years more to serve as a place of refuge and defense, but it had now fulfilled its major purpose as the Key to the West.

### *Repairs and Routine*

In the foregoing meeting, mention was made of parapets with fascines. This construction was used in the upper battery marked *D* and lower battery marked *C*. These were made with bundles of small saplings buried in an earth bank. The saplings served as bonding elements. Such parapets were readily subject to deterioration from the weather, particularly frost. In February of 1759, Lloyd reported that "the two Batterys on the Quarter (upper batteries) being demolish'd by the Frost have



PIPES

erected two others in their Room, nearer than those (the original ones) to the Fort & joined to it by a Line of Pallisades from the Angle of the Shoulder of each Bastion." This line of palisades is shown on the Map of Fort Ligonier, the original fort front being shown in broken line. Lloyd's palisade was not approved by Gordon when he saw it in August of 1759. He called it the "unmeaning work between the principal Gate and the first Redoute." On this same visit Gordon mentions "Fascines cut to repair the lower Battery, . . ." which had also gone bad in this short time.

Changes in design as well as repairs were made in the fort from time to time. In July, 1761, Blane wrote that he had cleared away everything but the "four good bastions and an uper Horn Work (upper battery)." He razed "both the lower Horn Work . . . and the Retrenchment Captain Woodward made a round the General's House, as they both obstructed the Deffence of the Bastions." Blane set about to correct the lack of comfort and wrote Bouquet in November, 1763: "I have allready finished a Guard House with a Chimney and fitted up one Barrack for 36 or 40 men upon a pinch and tomorrow night expect to have a stone Chimney finished for 3 Officers & 70 Man . . ."





## *Pontiac's Conspiracy*

The improvements and additions to the fort mentioned above were undoubtedly prompted by the Indian raids of the Summer of 1763, when all posts were attacked simultaneously in a well-organized uprising. Around the first of June, Indians appeared and fired on the fort. There was a serious attack on June 21 which Blane's small garrison withstood. They were reinforced in early July by a small force from Bedford. Fort Pitt was besieged and all of the forts west of Lake Erie except Detroit had fallen. Bouquet reached Fort Ligonier on August 2 and continued on to Fort Pitt. His force was intercepted on August 5 at Bushy Run. After a bitter two-day battle the Indians were defeated decisively, the siege of Fort Pitt was lifted and the organized power of the Indians in the upper Ohio Valley was ended. Except for its use as an occasional place of refuge from local Indian raids, the need of Fort Ligonier had passed. It was neglected by the authorities and allowed to deteriorate by the commandants who shared the low morale of their men.

## *The Last Days of Fort Ligonier*

In January of 1759 there were only 86 men on duty, though a great many in the hospital. The two hospital buildings are indicated by the letter *H* on the Map of Fort Ligonier. In February there was a garrison of 242, in March 180, and in May 379. In the next few years the size of the garrison dwindled until in the early Summer of 1763 there were only 8 men, including Captain Blane. Before midwinter there were 55 men and, in 1764, Bouquet sent provisions for 60. From that time on there were seldom more than 18 to 20 soldiers quartered in the fort.

Gordon reported in 1759 that "A good deal of repair" was needed. A plaintive note from a George Morton to Bouquet in January, 1760, reads: "as I Expect to Be Relieved Soon wou'd Be Glad You wou'd Appoint Some Careful person to take Charge of things at this place yt: they may not go to Ruin as they did Last Year." In September of 1763 Blane wrote: "I realy get heartily tired of this post, which was you now to come here you would scarcely know." Bouquet recommended to General Gage in the Spring of 1765 the abandonment of "all the small Posts" and on March 16 reports that all wooden forts were "falling in decay." Harry Gordon's Journal of 1766 contains the last official mention of the fort: "The Fort at Ligonier near the western foot of the mountains is much shattered by the timbers and stockades being almost rotten."



JEWS-HARP





PLAN  
OF THE  
**RETRENCE**  
AT  
FORT LI

*and of the fort*  
[Scale bar]

REFEREN

- A. *Post Bar of Fort*
- B. *Post Bar of Fort*
- C. *Post Bar of Fort*
- D. *Post Bar of Fort*
- E. *Post Bar of Fort*
- F. *Post Bar of Fort*
- G. *Post Bar of Fort*
- H. *Post Bar of Fort*
- I. *Post Bar of Fort*
- K. *Post Bar of Fort*
- L. *Post Bar of Fort*
- M. *Post Bar of Fort*
- N. *Post Bar of Fort*

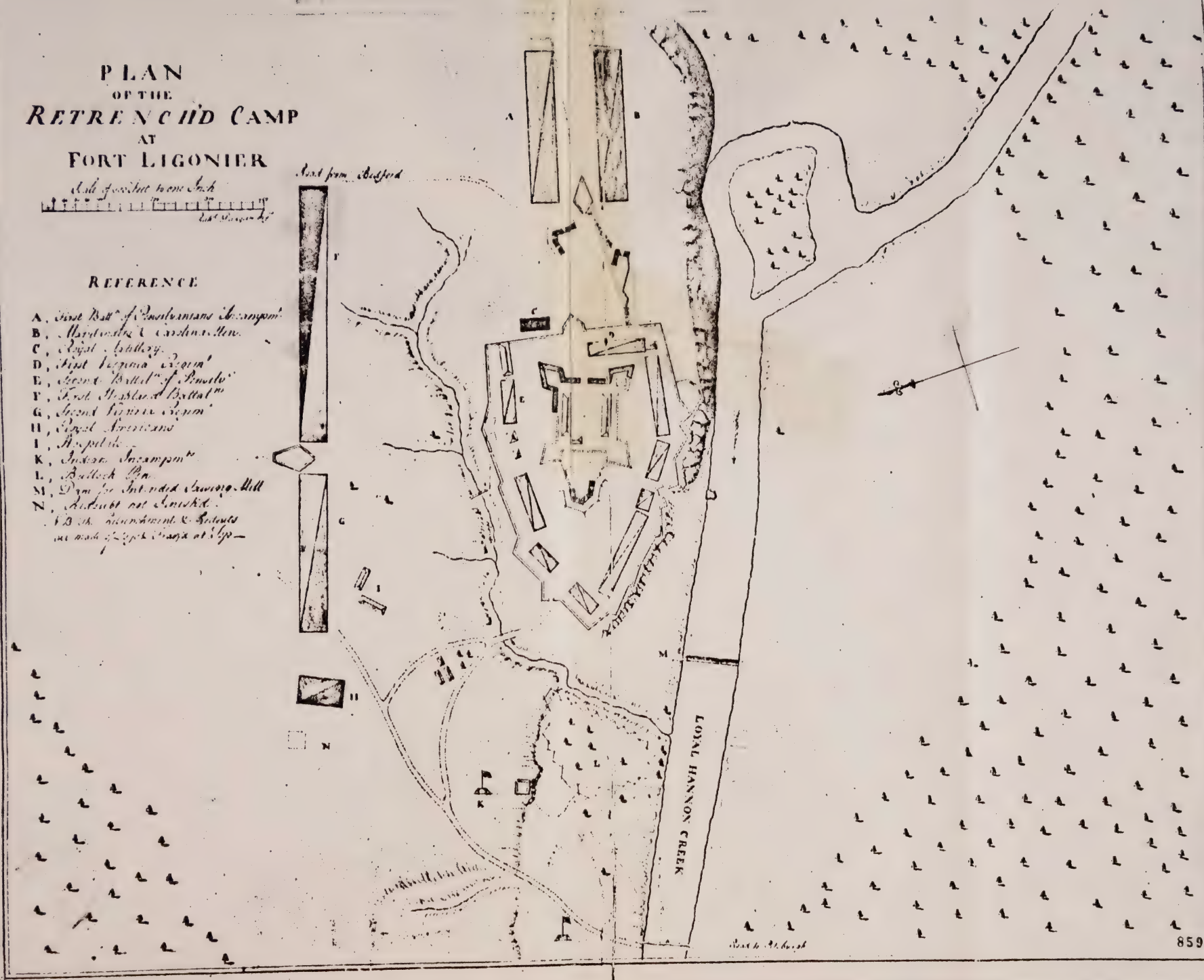
THE WINDSOR DR  
Ligonier extant in the landscape which are little changed  
ghier with the Army at Ligonier.



Scale of weights to one Inch

Last Dragon die

A. First Bat<sup>y</sup> of "Pawlusmans Incamp<sup>ts</sup>"  
 B. "Hortwicks" & "Arthur's Hen."  
 C. "Royal Battery."  
 D. "First Virginia Regim<sup>t</sup>"  
 E. "Second Batt<sup>y</sup> of "Pawlus"  
 F. "First Maryland Battal<sup>ion</sup>"  
 G. "Second Virginia Regim<sup>t</sup>"  
 H. "Royal Americans"  
 I. "Hospital"  
 K. "New Incamp<sup>ts</sup>"  
 L. "Battery Pa."  
 M. "Prin<sup>ce</sup> of Ireland's Dragoon<sup>s</sup> B<sup>att</sup>  
 N. "Artists and Smiths."  
 O. "The Government & Soldiers  
 are made of paper & straw at 1/2 p<sup>er</sup>—



THE WINDSOR DRAWING—This is one of two contemporary drawings of Fort Ligonier extant in the Royal Library of Windsor Castle. Shows complete fort, disposi-

*tion of Forbes's troops, and elements of surrounding landscape which are little changed today. The drawing is by Robert Dudgeon, an engineer with the Army at Ligonier.*



THE  
LIBRARY OF THE  
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
WASHINGTON, D. C.

1917

## *What We Learn of the Fort from Early Drawings*

Although we learn something about the forts from written records, it would be impossible to make a reasonably faithful reconstruction if it were not for the excellent library of early military drawings. The army engineers of the eighteenth century were required to make plan records of all forts occupied by their armies. These were finished drawings of excellent draftsmanship and not in the nature of field sketches. They were provided with surveying instruments with which to accurately place the structures in their natural surroundings.

In most instances it would appear that the drawings were made after completion of the fort. We can be sure of this in the case of the Fort Ligonier drawings as the "Road to Pittsburgh" is noted and we know that Pittsburgh was not named until Fort Ligonier was nearly finished. The accuracy of these drawings has been proved by archaeological evidence. For instance, test pits were dug in recent years which accurately located the walls of Fort Pitt. These were found to tally precisely with the contemporary military drawing.

The Crown Collection of American Maps in the British Museum contains drawings of practically every pre-Revolutionary stronghold in America. These are mostly ground plans, but occasional details are given and sometimes elevations and sections. The two maps of Fort Ligonier in this collection have been known to students of the subject for many years. One of these which we identify as the Museum Drawing shows an enlargement of the inner fort and an interesting sectional detail of the horizontal log construction of the exposed side.

After some foreign correspondence, the architect located two additional drawings of Fort Ligonier in the Royal Library of Windsor Castle. One of these which we identify as the Windsor Drawing is published here for the first time. It bears the name of Robert Dudgeon and the other drawing that of J. C. Pleydell, both engineers at Fort Ligonier under Captain Harry Gordon. They are ink drawings rendered in water color.

Another map of Fort Ligonier may be seen in "A Set of Plans and Forts in America Reduced from Actual Surveys, 1763" by Mary Ann Rocque. As the name indicated, these drawings were made from the original surveys and contain no new information. Burd's Sketch is described elsewhere.

The architect has combined all pertinent information from available maps and other sources on a composite drawing reproduced inside the front cover of this book and titled A Map of Fort Ligonier. The two main streets of the modern town are superimposed to aid in locating the







*Model of Complete Fort Restoration, prepared by Evans Parcell from architect's drawings.*

original parts of the fort. Reference to this drawing will aid the reader in identifying features discussed in the text.

### *Interpretation of the Drawings*

These maps or surveys provided invaluable evidence of the plan, but all that stood above ground could only be deduced from conventional indications, occasional notes, and even rarer details. To fill the many gaps it was necessary to study contemporary military practice as presented in handbooks of the time and to carefully examine the construction of the other pre-Revolutionary fortifications shown in the Crown Collection, copies of which are in the Carnegie Library of Pittsburgh.

The Windsor Drawing is our most important source of information. A brief discussion of its salient features, supplemented by an examination of the fort model, will enable the visitor to visualize this frontier stronghold. We refer to the various parts of the fort with the key letters given on the Map of Fort Ligonier inside the front cover.

Fort Ligonier consisted of an inner fort A with four bastions, a lower battery C on the northwest or lower side of the inner fort, a large enclosure or "retrenchment" B made by a low wall of horizontal logs, an upper battery D and four redoubts E. The construction of each of these will be discussed briefly.

The inner fort A enclosed an area about 120 feet square, containing two storehouses about 18 by 78 feet in size and an officers' barracks about 28 by 13 feet, all buildings of horizontal log construction. The corners of the inner fort were formed by projecting bastions, each pointing toward and named for a cardinal point of the compass. The exposed or upper wall of the fort, between the East and South Bastions, was formed of two parallel rows of horizontal logs which were bonded together with tie



logs. This boxed form was filled with earth as protection against artillery fire. A row of logs projected at an angle from the top as a baffle to resist scaling by the enemy. This was known as "fraise" work. This elaborate construction could only be provided on the exposed face or that from which the enemy's attack was anticipated. It will be noted that Burd indicated the anticipated direction of the French attack on his sketch. The magazine or powder storeroom was half buried in the ground in the South Bastion and covered with a layer of earth.

The back walls of the fort were made of vertical pickets with firing platforms behind them. Below this wall, between the West and North Bastions, lay the lower battery C. This was an earthwork containing "fascines" or bundles of saplings which served as a bonding element. These mounds, separating the cannon, were crowned with low picket walls which continued to the shoulders of the bastions. The upper battery D was of similar construction. It was later connected to the East Bastion by a curtain wall of pickets. The main entrance, about ten feet wide, was closed with a heavy gate containing a wicket through which a person could be admitted without opening the gate itself. The retrenchment B was formed of horizontal logs capped with "fraise" work. This we know from the note on the Windsor Map, "The Retrenchment & Redoubts are made of Logs Fraiz'd at Top." This somewhat unusual feature in early forts is about 1,700 feet long and encloses some  $3\frac{1}{2}$  acres, thus forming protection for great numbers of soldiers. The retrenchment provided for gun emplacements. These are described in a letter from Lloyd to Bouquet in February, 1759: "one of these Batterys next to Declivity of the Hill mounts one Gun which scours the escarpe of the Hill, the other mounts two Pieces & defends the Redoubt and a large Circle of the Adjacent Field."

The redoubts, as noted on the Windsor Map, were of construction similar to the retrenchment. They were of diamond shape, entered from the opening at the apex. These were finished by March of 1759 when Lloyd notes "the Redoubts are occupy'd by Guards, . . ." However, by September of the same year Armstrong reported "all the Redoubts, . . . were Out of Repair and full of Dirt . . ." After the danger had passed, maintenance was relaxed.

The hospital H comprised two buildings 15 by 55 feet well clear of the fort, as was the practice. This Indian encampment M probably consisted of bark huts and log cabins of the time. The Bullock Pen F enclosed an area 230 by 140 feet to protect the animals of the garrison. It was on low moist ground. Armstrong notes in September, 1759, that "We have fenc'd the Garden and Bullock Pen" and mention is made of soldiers stationed to guard the animals.





PLAN  
OF  
FORT LIGONIER  
with Part of the  
RETRANCHMENT

Section thro A B



**THE MUSEUM DRAWING**—This is one of two drawings of Fort Ligonier in the Crown Collection of American Maps in the British Museum. It is valuable because it provides an enlarged plan of the inner fort and sectional detail which fully explain the horizontal log construction of the exposed or entrance wall of the fort, between the East and South Bastions. It also shows the revision of the front retranchments and addition of stockade wall marked G.

We do not know whether the “Intended Sawing Mill” J was ever built, but Lloyd wrote in April, 1759: “As the Saw Mill shall be wanted at Ligonier Please to get the Dam repaired and compleated, and if you have any body able to direct that Work you will get the Mill carried on makeing Use of the Materials that had been prepared for it. . .” The only mention of the Bridge L is from Captain Green in November, 1764. He says “I think It will Stand all Floods that Comes untill the Timber Rots. . .”

### *Fort Preservation*

Arthur St. Clair, after he left the Army in 1762, came to settle in Ligonier Valley as the agent of the Penns. Although not in the Army, he had charge of Fort Ligonier in 1769 and presumably was involved in the fort built under the direction of Colonel Archibald Lochry, County Lieutenant.





29

With the renewal of Indian troubles and the dilapidated condition of Fort Ligonier, this new stockaded enclosure was constructed in the Autumn of 1777. It was then generally known as Fort Preservation but is often referred to as Fort Ligonier. The new fort was built on lower ground, possibly near the site of the Bullock Pen of the old fort and was subject to flooding by the springs near it.

The fort was used as a storehouse for state and government supplies during the Revolution. By 1783 fear of Indian raids had largely passed and they ceased altogether with Wayne's decisive victory at Fallen Timbers in 1794.

The contemporary account of the building of the fort has been preserved. The following selected excerpts are of particular interest.

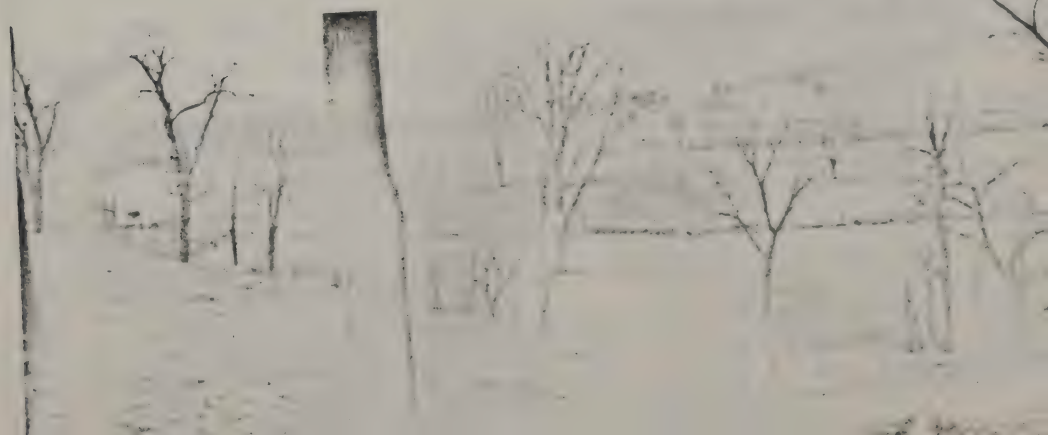
Oct. 3. "Capt. Shannon & myself went up to Col Lochry to know if he had adopted the Plan of Building a Fort & Magazine at Ligonier for the Support of the Country and to keep the Communication open to Fort Pitt. He informed us that he approv'd of the same & wrote a letter of Instructions to Col Pollock (James Pollock, then Sub-Lieutenant of Westmoreland Country) to appoint persons to superintend the Works and go on with them immediately."

Oct. 5 "Col Pollock came to Town and appointed Capt. Shannon & myself to Superintend the Works. We immediately collected the People and inform'd them of Col. Lochry's Orders. They desir'd to know the Pay, and we cou'd not exactly ascertain. As an unwillingness seem'd to prevail with some of working at an uncertainty, Col. Pollock propos'd riding up to Col Lochry and having every thing done to their satisfaction."

Oct. 6 "Col. Pollock & Capt. Shannon rode up to Col. Lochry, who wrote to the people that he could not ascertain the Pay, but assur'd them of pay equal to those engag'd in the same Business in the Continental Service."

Oct. 7 "We laid out the plan of the Fort & began with the Trench.—Enter'd 2 Teams in the Service."

Oct. 23 "The People fell to work again—a few Loads of Pickets cut





This island in the Loyalhanna, which has been a feature of the landscape for at least 200 years, will be removed when the proposed east-bound lane of Route 30 is built, at which time Loyalhanna Creek will be relocated to make way for the new road. The panorama shown below looks over the creek into the valley.



& haul'd & some Men appointed to repair the out houses for the reception of the Inhabitants."

Oct. 24 "... The Artificers wrought at the Gates. Clifford's Team discharg'd."

Oct. 27 "Rainy—Col. Pollock & Capt. Knox set off this afternoon for Col. Lochry's. Before they set off, Capt. Shannon and myself requir'd some men to turn a run of Water out of the Trenches, (which) was washing & filling them. He gave us for answer he (Pollock) cou'd do it himself in Fifteen minutes. Without doing it himself or ordering men to do it, we were obliged to hire two Men to turn the Water & dig a Trench to carry it off clear of the Works."

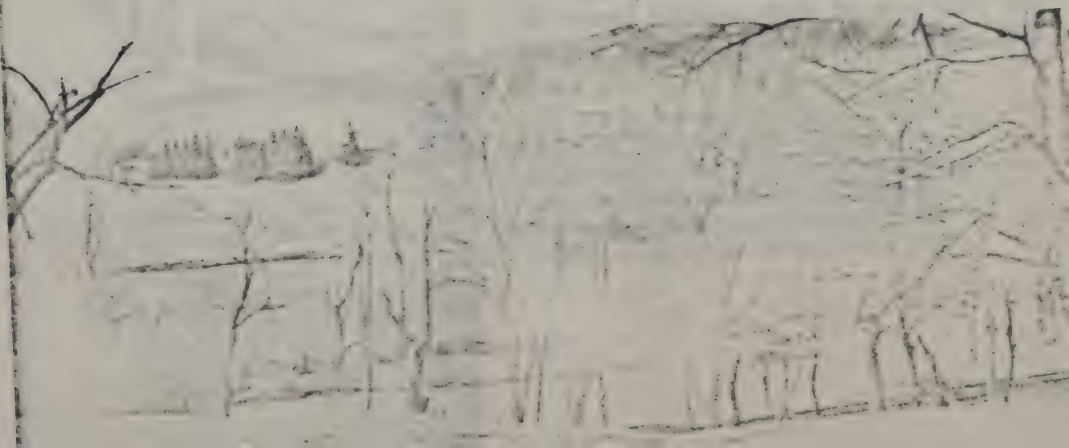
Oct. 28 "... Partys out for a considerable Distance round the Town Reconnoitering; — made no discover. — 2 Sprungs spouted out in the Trenches, which keeps them full of Watter."

Nov. 1 "The Peoples employed in Cutting, Hawling, & Setting of Pickets & clearing the Trenches of Water, Set up the North Gate, 10 feet Wide—12 feet High in the clear."

### *Peculiarities of the Site*

The site of Fort Ligonier is most unusual among frontier forts. It is built on a descending ridge with high ground in front of it. This posed a

*View of the Creek and Valley from the Fort Site.*







problem which is recognized in a letter from Lieut. Archibald Blane to Bouquet in July, 1763, in which he states that the fort "is situated on the declivity of a Hill which falls from three sides of the Fort, and therefore requires an advanced work (if it could be afforded) before each Curtain. Another is also necessary for the protection of the Cattle at night before the Curtain upon the rising ground. . ." Burd gave a description of the site in his famous letter quoted above and a sketch which is reproduced here, both indicating reasons for the selection and unmistakable identification of its location.

## *Field Investigation*

On February 4, 1947, the architect Charles M. Stotz was commissioned by the Fort Ligonier Memorial Foundation to supervise a project to establish, as far as possible, the exact location and layout of Fort Ligonier, both by field investigation at the site and by assembling all available source material on the subject from historical writings, drawings, and the like, as well as to recover from the ground artifacts remaining from the occupation.

The archaeological excavation of the site offered the most immediate source of positive evidence. Working under the immediate direction of Mr. Eugene M. Gardner of Harrisburg a small group of assistants started work March 19, 1947, and continued until August 15 of that year. Digging was at first limited to the property fronting on Loyalhanna Street owned by the Daughters of the American Revolution, through whose foresight at least this small portion of the original site of Fort Ligonier had been preserved as a memorial.

The lot, measuring 120 by 180 feet, was staked off in 5-foot squares as may be seen in the photograph. These squares were plotted on a work sheet and identified by letters and numbers so that the location of all subsoil findings could be accurately recorded before their removal. Some 450



EXCAVATION OF SITE. *The area was divided into five-foot squares and marked with white pegs as seen in the picture. This facilitated the exact spotting of all artifacts as taken from the ground.*







*Site Condition with  
Future One Lane of  
Route 30 and  
Loyalhanna Creek  
Relocated*

artifacts were recovered from the ground and form the nucleus of the present museum collection. A few are illustrated here. Various local persons interested in the subject have donated objects they have found or acquired and it is hoped many more will add to this permanent display.

It had been hoped that the excavation would reveal the location of the stockaded North and South Bastions which lay within the D.A.R. property limits. A number of postholes were encountered, but none in a continuous or regular formation that could be identified as a picket line. It can only be assumed that subsequent farming of the site destroyed these remnants or that the pickets were completely removed on the razing of the fort. Stockades were constructed by placing the pickets in a prepared trench and backfilling against them. In their removal it is possible that this process was reversed, leaving no portion of the log and destroying the form of the hole.

The most interesting discovery was an area of flagstones on the site of the North Bastion. Mention is made elsewhere of the discovery of an underground room on the site of the East Bastion containing some metal hoops, probably from powder kegs. One of these hoops is in the collection.

### *Establishing the Fort Location* **1676524**

The Windsor Map was used in establishing the orientation and position of the fort. The main features of the landscape shown on this drawing remain today largely unchanged over the past two hundred years, including the island in the creek, the foundation of the rock on the north shore, the break in the bank above it and the general location of the spring valley, now covered with streets, lawns, and houses. The nature of the



cliff overlooking the stream is unchanged except for some cutting of rock when the railroad (now removed) was put through. The proposed new Route 30 will occupy the position of the creek which will be placed in a new channel to the south and the island will be removed.

An accurate topographical survey was made in 1951 and superimposed over the Windsor Map. The natural features common to both drawings were found to agree remarkably well, including the alignment of the compass indications, the position of the rock on the north shore, and the location of the stream. This position of the fort located the East Bastion directly over the house foundation in which the hoops were found and corroborates earlier attempts to place the fort.

### *About the Reconstruction*

Working drawings and specifications for the reconstruction project were completed in early 1953. Although the location and layout of the fort could be established with reasonable accuracy, there were many details of a conjectural nature upon which no evidence from graphic or written records could be obtained. As new source material is discovered, these gaps may be filled. In the meantime, the integrity of the reconstruction must rest with the architect's judgment and conscience.

The fort is constructed of native woods cut and worked as nearly as possible in the early manner. Clapboard shingles were split from oak slabs on the job. Carl Schultz who had active direction of the construction and Sidney H. Brown, the architect's representative on the job, must be credited with the most painstaking care in reproducing the early craftsmanship.



**SHINGLE SPLITTER AT WORK.** This operation is being done in the old manner. The bench or schnitzelbank was built on the job. It provides a seat for the worker and an improvised lever, operated by the foot, which holds the oak slab in place while it is being shaved. All wood was cut locally and, as in the original construction, used without seasoning.







*Officers' Barracks Under Construction*

The excessive slope of the land raised many problems in adaptation of structure and drainage which will be apparent to the visitor. A certain degree of deterioration in the wood is inevitable even though impregnated with chemical preservatives. It was thought wiser to build with the original materials which will have to be replaced from time to time, than to use objectionable if more durable imitations.

The officers' barracks was built with more finish than the rest of the work, on the assumption that it would have received this special attention. The logs are squared on all sides and laid tight. This was done in place of ordinary chinked log construction as an added protection from gunfire.

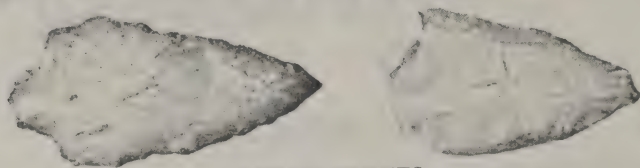
### *The Ancestry of the Frontier Fort*

The design of the elements and methods of construction employed at Fort Ligonier had an ancestry of great interest, a brief review of which may add to the visitor's understanding of the reconstruction. It was scarcely two hundred years before the building of Fort Ligonier that the mediaeval wall fortification had been abandoned as a means of defense. Towns fortified with high walls and towers such as Carcassone in southern France had proved well nigh impregnable for generations, but by 1600 they were untenable before the destructive power of the newly perfected ordnance.





The high wall was first screened with bulwarks, an outwork usually semicircular in plan, built of earth, consolidated with timber and revetted with hurdles. When the evolution was completed, the wall had been sunk in a ditch. Defense had been accomplished in depth rather than height. The leading military designer of the new system of defense was a Frenchman, Sebastian Vauban (1633-1707), and his contemporary Coehorn was the leader of the Dutch school. The small portable mortar which Coehorn invented and which bore his name was mentioned by Harry Gordon as



ARROW POINTS

the most serious threat to the security of Fort Ligonier. While most forts were well designed for resistance to horizontal gunfire, the mortar could place its shell by vertical fire into such vulnerable spots as the powder magazine.

The bastion was the most conspicuous feature of these forts. As finally perfected it provided a variety of angles of fire so that all walls of the fort could be commanded by the soldiers within, leaving no "dead ground." In the many handbooks on fortification of the time, the fundamental design and construction of the various elements were given in great detail. However, they presupposed a use of substantial materials and elaborate construction which could not be managed in the American wilderness. The frontier soldier therefore was required to exhibit great resourcefulness in adapting the conventional forms to the varying conditions of topography, water supply, and other natural conditions with which he must cope. Materials of construction except limited quantities of such things as iron and glass could not be carried long distances over mountainous and wooded country; the engineer designer had to learn to use the timber and earth at hand. There was almost always a desperate urgency. Neither



BRASS TACKS

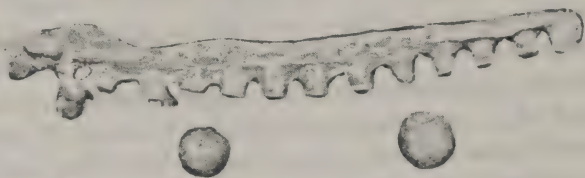
time nor energy could be wasted. The records indicate that mistakes were made, but the early military drawings present an impressive display of intelligent adaptation and ingenuity.

It is a curious fact that the most complete and accurate description of the construction of that commonest frontier means of defense, the stockaded



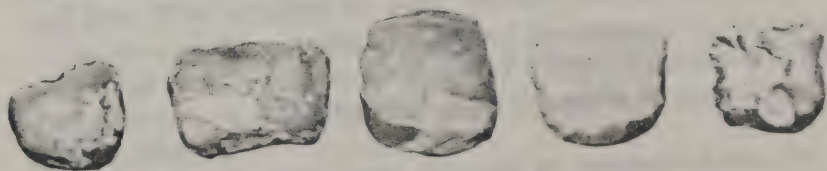
enclosure, was written by Benjamin Franklin when he had charge of the forces at Gnadenhut in eastern Pennsylvania. The activity reported here was repeated time after time as the frontier moved westward.

"The next morning our fort was plann'd and mark'd out, the circumference measuring four hundred and fifty-five feet, which would require as many palisades to be made of trees, one with another, of a foot diameter



SOW FROM BULLET MOLD

each. Our axes, of which we had seventy, were immediately set to work to cut down trees, and, our men being dextrous in the use of them, great dispatch was made. Seeing the trees fall so fast, I had the curiosity to look at my watch when two men began to cut at a pine; in six minutes they had it upon the ground, and I found it of fourteen inches diameter. Each pine made three palisades of eighteen feet long, pointed at one end. While these were preparing, our other men dug a trench all around, of three feet deep, in which the palisades were to be planted; and, our waggons, the bodys being taken off, and the fore and hind wheels separated by taking out the pin which united the two parts of the perch, we had ten carriages, with two horses each, to bring the palisades from the woods to the spot. When they were set up, our carpenters built a stage of



GUNFLINTS

boards all around within, about six feet high, for the men to stand on when to fire thro' the loopholes. We had one swivel gun, which we mounted on one of the angles, and fir'd it as soon as fix'd, to let the Indians know, if any were within hearing, that we had such pieces; and thus our fort, if such a magnificent name may be given to so miserable a stockade, was finish'd in a week, though it rained so hard every other day that the men could not work."

"This kind of fort, however contemptible, is a sufficient defense against Indians, who have no cannon."





## Acknowledgments

The *Papers of Col. Henry Bouquet* comprise the most important and reliable single source of information and provide most of the basic material for the other works from which we quote. Also there exists the contemporary correspondence of Burd, Forbes, and others.

The next most important source is the excellently documented paper by Dr. Alfred P. James—*Fort Ligonier: Additional Light from Unpublished Documents* published in the *Western Pennsylvania Historical Magazine* for December, 1934. We have taken the liberty of quoting freely from this work which compactly organizes and analyzes a considerable mass of material. It is to be regretted this could not have been a fuller account.

An excellent brief account of Fort Ligonier is contained in *A Traveler's Guide to Historic Western Pennsylvania* by Lois Mulkearn and Edwin V. Pugh published by the University of Pittsburgh Press in 1954. A comprehensive and definitive story of those times may be found in *The Planting of Civilization in Western Pennsylvania* by Solon J. Buck and Elizabeth Hawthorn Buck published by the University of Pittsburgh Press in 1939.

Other books which were consulted are *Frontier Forts of Pennsylvania*, published in Harrisburg in 1896 by George Dallas Albert. *Fort Ligonier and Its Times* by C. Hale Sipe, published in Harrisburg in 1932. The *Pennsylvania Magazine, Volume 32* and the *Pennsylvania Archives, Volume 12, James Burd; Frontier Defender* by Miss Lily Nixon; *The Old and New Westmoreland* by John Boucher; and several other works.

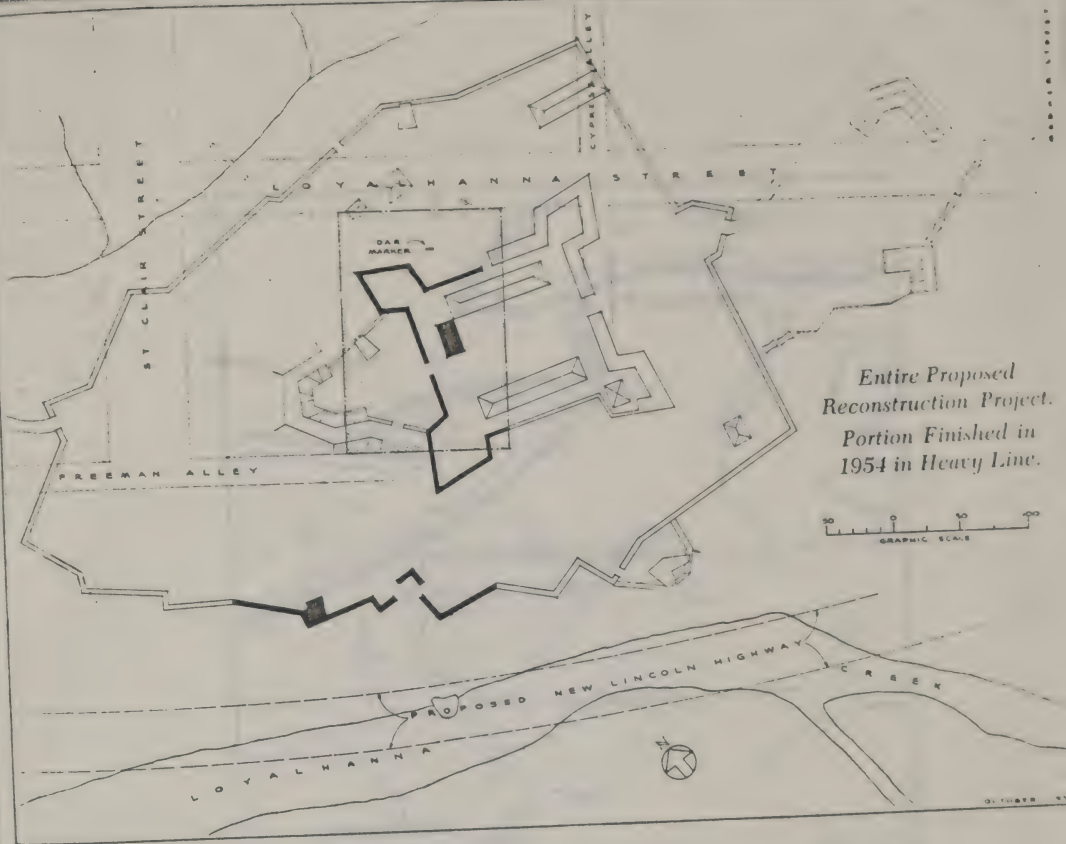
The story of the uprising of 1763 and the momentous ten years preceding this event is contained in Francis Parkman's *Conspiracy of Pontiac*. Fort Ligonier, as an important link in the chain of early forts, is frequently mentioned.

Additional information was obtained by correspondence. To name only a few: The British Museum, Library of Windsor Castle; Mr. A. J. K. Richardson, Chief Archivist in the Public Archives of Canada, Ottawa, Canada; Mr. Hervey Allen; Mr. Colton Storm of the Clement Library, Ann Arbor, Michigan; Miss Autumn L. Leonard, Pennsylvania Historical and Museum Commission; Mr. Stanley Pargellis of the Newberry Library in Chicago; Mr. Lawrence Henry Gipson of the Lehigh Institute of Research.

Mr. Richard K. Mellon, who has made a notable collection of Arthur St. Clair's possessions, has followed the fort project with deep interest since its inception.







## *The Fort and Its Future*

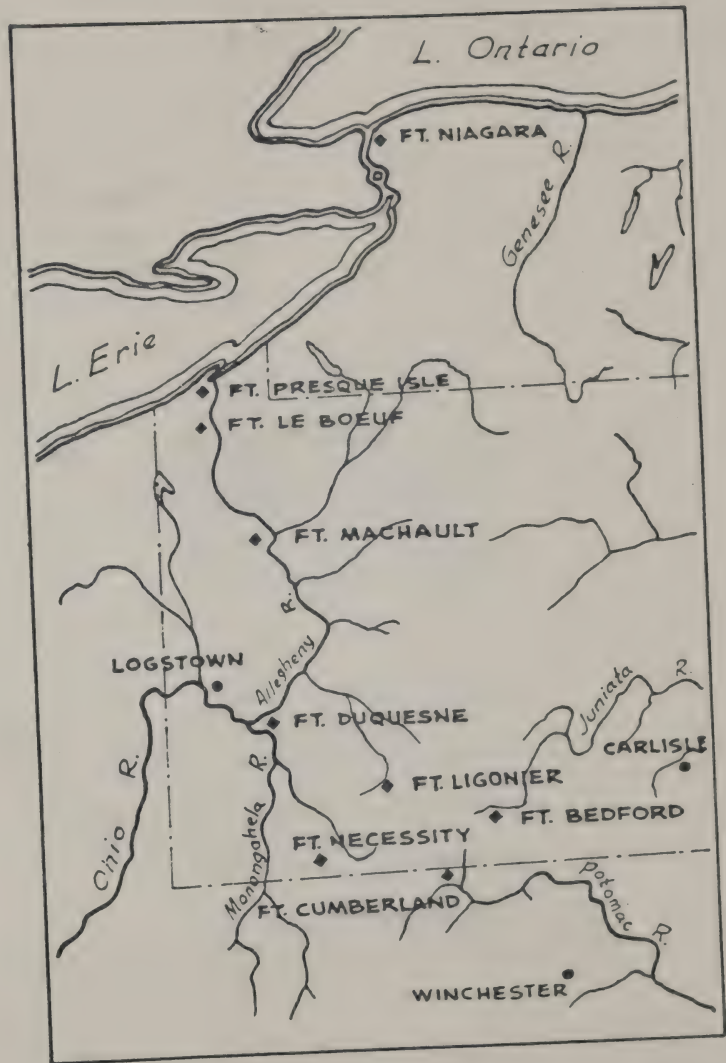
When the Fort Ligonier Memorial Foundation was organized in November of 1946, the task before it was very vague. There was not even assurance that the accepted location of the fort was correct, but this was later confirmed by archaeological investigation. It was also revealed that the full fort reconstruction would occupy much of the southeast corner of Ligonier, a project of hopelessly large proportions.

It was therefore decided that the reconstruction must be done in small stages. Fortunately the heart of the fort, the officers' barracks and surrounding stockade, could be built on the land recently donated by the William Kenly Chapter of the Daughters of the American Revolution. This first program which the directors thought might take ten years to accomplish is now nearly completed.

It is the belief of the Foundation that the public support in interest and money that has made this first project a reality in so short a time will assure the early completion of the entire reconstruction as a memorial to the planting of civilization in western Pennsylvania.

C. K. MACDONALD, *President*, Fort Ligonier Memorial Foundation





**FRONTIER FORTS OF THE DISTRICT IN 1758**  
 This map shows the location of the principal French and English forts in western Pennsylvania and neighboring districts in 1758.













THE FLAG THAT FLEW  
OVER FORT LIGONIER

*This is the authentic flag of 1758 known as the King's Colors. It bears the Cross of St. George (England) and the Cross of St. Andrew (Scotland). The Cross of St. Patrick was added later. It flies once more over the fort by permission of American and British authorities.*

3930















